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10/644,273	08/19/2003	**Jeremy John Carroll**	200300135-2	5180

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EXAMINER	
WASHBURN, DANIEL C	
ART UNIT	**PAPER NUMBER**
2628	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/644,273	CARROLL, JEREMY JOHN	
	Examiner	Art Unit	
	DANIEL WASHBURN	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-19,22,25,26,28-30,33 and 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-19,22,25,26,28-30,33 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 3/23/09 have been fully considered but they are not persuasive.

As an initial matter, it is the Examiner's understanding that claim 7 was cancelled in the most recent previous communication from the Applicant. In the claim set submitted 9/12/08 claims 5 and 7 were cancelled and in the Arguments submitted 9/12/08 page 14 described,

> " Claims 5 & 7
> As claim 1 refers to a RDF graph, claim 5 is redundant and therefore it has been cancelled (and claim 6 dependent on it is now dependent upon claim 1). Claim 7 is superfluous in view of the amendments made to claim 1."

Thus, claim 7 was understood to be cancelled by the Applicant. However, for purposes of compact prosecution, the new claim set has not been found to be non-compliant and claim 7 is considered to remain cancelled as previously indicated (see MPEP 714 (c) (5): "*Reinstatement of previously cancelled claim.* A claim which was previously cancelled may be reinstated only by adding the claim as a 'new' claim with a new claim number.")

As to the Applicant's arguments regarding the 35 USC Section 101 rejection of the pending claims, the Examiner has reevaluated the pending claims and has withdrawn the 101 rejections of claims 1-4, 6, 8-14, 25, 26, and 28-30. However, the 101 rejections of claims 15-18, 33, and 34 are maintained on the grounds that the preamble of the claims has not been given patentable weight and the body of each

claim fails to tie the process to anther statutory category (see the 101 rejection that follows).

As to the Applicant's argument that

> "Independent claim 1 distinguishes over Hussam, Ryall, and O'Neil at least by reciting, 'the method is used to canonicalize an RDF graph ... having a plurality of blank nodes, wherein ... the first set of rules include ... assigning a different respective label to those blank nodes that are determined, by a limited examination around each node' The combination of Hussam, Ryall, and O'Neil fail to suggest canonicalizing an RDF (Resource Description Framework) graph and particularly fail to suggest limiting the examination around blank nodes when determining assigning a label to a blank node in a canonicalized RDF graph." ...
>
> "Hussam does not describe a process for signature generation and particularly does not mention canonicalizing of RDF graphs. Further, Hussam nowhere mentions the problems that blank nodes present to canonicalizing a RDF graph or any process for examining around a blank node when assigning a label to a blank node. Ryall is directed to methods for manipulating graphs, but nowhere mentions RDF graphs, digital signatures, or canonicalizing of RDF graphs. O'Neil is primarily directed to reorganizing hierarchical data from a tree structure into a non-hierarchical data structure. O'Neil nowhere mentions RDF graphs, digital signatures, or canonicalizing of RDF graphs. Accordingly, the collective description of Hussam, Ryall, and O'Neil fails to suggest limiting examination around a blank node when canonicalizing an RDF graph."

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In this case the combined teaching of the applied references, not the separate teaching of each reference, has been relied upon by the Examiner when rejecting the pending claims.

Hussam has been relied upon to describe that RDF graphs including blank nodes were well known in the art at the time of the invention, as disclosed at least at 0093-0104.

Hussam doesn't disclose generating a canonicalized form of the RDF graph for purposes of generating a digital signature or otherwise, but Ryall describes a system and method for generating canonicalized forms of graphs using visual organization features (VOFs) (see 3:14-4:21), where generating a canonicalized form of an RDF graph isn't explicitly disclosed, but it would have been obvious to one of ordinary skill in the art at the time of the invention that the described VOFs can be applied to any graph structure comprising nodes, which the Examiner considers to include RDF graphs, which Hussam establishes were well known at the time of the invention (see the rejections that follow for further detail).

Hussam in view of Ryall doesn't disclose assigning a different respective label to those blank nodes that are determined, by a limited examination around each node, to be distinguishable from other blank nodes by their respective connected features of the RDF graph, the assignment of the labels to these blank nodes being based on an ordering dependent on the connected features that distinguish them.

However, O'Neil discloses a system and method that assigns a different respective label to those nodes that are determined, by a limited examination around

each node, to be distinguishable from other nodes by their respective connected features of the RDF graph, the assignment of the labels to these nodes being based on an ordering dependent on the connected features that distinguish them (1:38-65, 6:9-27, 6:48-7:55). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Hussam in view of Ryall the system and method wherein unlabeled nodes are labeled based on a limited examination around each node, in order to achieve the predictable result of allowing a user to quickly and easily determine the relationships among nodes, based on the applied hierarchical numbering scheme, such that patterns, similarities, and groupings among nodes can be established quickly and accurately (O'Neil 1:14-35).

Therefore, the teachings of Hussam, Ryall, and O'Neil, when combined, are considered to suggest canonicalizing an RDF graph that includes a plurality of blank nodes, wherein a first set of rules is applied that includes assigning a different respective label to those blank nodes that are determined, by a limited examination around each node.

In response to applicant's arguments, as directed at the rejection of claims 15 and 22, against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The Examiner contests that while Hussam only discloses RDF graphs including blank nodes, and Ryall only discloses canonicalizing graphs using VOFs, wherein

nodes can be omitted from the process, nodes can be labeled, the canonicalized graph can be reordered, and wherein the canonicalization of RDF graphs including blank nodes isn't explicitly disclosed, the Examiner considers the combined teachings of Hussam in view of Ryall to suggest canonicalizing RDF graphs including blank nodes in the manner described by claims 15 and 22, as discussed above and in the rejections that follow.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 15-18, 33 and 34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim(s) 15-18, 33 and 34 is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Based on Supreme Court precedent and recent Federal Circuit decision, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. The instant claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

As an initial matter, claims 15-18, 33, and 34 all fail to transform underlying subject matter to a different state or thing, which is not contested by the Applicant but included for purposes of completeness.

RE claim 15, the preamble reads, "...the method being performed in a data processing system and comprising..." However, the body of the claim fails to explicitly or implicitly disclose a method step that ties the process to another statutory category, and the preamble of a claim is not considered to limit a claim unless "...the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the preamble is necessary to give life, meaning, and vitality to the claim, then the claim preamble should be construed as if in the balance of the claim." MPEP 2111.02 [R-3].

In this case, the preamble of the claim does not recite limitations of the claim, and is not considered necessary to give life, meaning, and vitality to the claim; thus, the preamble is not considered to limit the claim.

Further, "...If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction." MPEP 2111.02 (II)

In this case, the body of the claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble only states the purpose or intended use of the invention; thus, the preamble is not considered a limitation.

Therefore, claim 15 is not considered a statutory process.

Claims 16-18 and 33 likewise fail to explicitly or inherently tie the process to another statutory category.

RE claim 34, the body of the claim fails to explicitly or inherently tie the process to another statutory category, and the preamble is not given patentable weight, see the rejection of claim 15 for further detail.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 6, 8-14, 19, 25, 26, 28-30, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hussam (US 2003/0050927) in view of Ryall et al. (US 6,774,899), and further in view of O'Neil et al. (US 6,889,226).

RE claims 1, 19, and 34, Hussam describes a system, method, and computer program stored on a computer readable medium for creating an RDF graph with a plurality of blank nodes (0093-0101 describes that RDF models can be represented graphically using node and arc diagrams, as illustrated in Figure 2. Further, 0100-0101 and Figure 4 describe a node that doesn't have a URI associated with it. Hussam describes that such nodes are referred to as anonymous (or blank) nodes. Thus, Hussam describes creating an RDF graph with a plurality of blank nodes).

Hussam doesn't describe but Ryall describes a method and computer program stored on a computer readable medium (2:66-3:3) for processing data in a data processing system, the method comprising the steps of:

processing input data provided in the format of a data file in said data processing system (3:14-21 describes that the graph display area 110 of the user interface 100 displays the nodes and edges of a graph, where the graph information is stored in the memory 20 and processed by the CPU 10)

in accordance with a first set of rules, which operate in said data processing system to define a stage at which such a processing operation ceases (3:21-4:9 describes that a user may select one or more nodes on the displayed graph and apply one or more visual organization features (VOFs) to the selected nodes. The VOFs include sequential placement, clustering, zoning, T-shaped constraints, alignment, even spacing, symmetry, and a hub shaped design. Applying the VOFs to selected nodes is considered processing the selected nodes in accordance with a first set of rules, which operate until the selected nodes are re-ordered, at which point the system ceases processing);

applying to the partly-processed data a second set of rules, which operate in said data processing system to modify the data, so that the modified data may be processed in accordance with a third set of rules (3:31-32 and 4:10-21 describes that selection button 143 is used for adding or changing text labels on the nodes, thus the user adding or changing text labels on the nodes is considered modifying the data according to a second set of rules, where the modified data may be processed with a third set of rules (e.g., applying one or more VOFs to the modified nodes))

and then outputted as an output data file from said processing system (3:10-13 describes that a printer 60 may be connected to the CPU in order to make a hard copy

of the graph when complete. Further, 2:66-3:1 and 3:19-21 describes that the memory 20 stores previous graphs that have been manipulated by the user, which inherently implies that a user is able to save an altered graph to memory 20. Thus, the system outputting a graph to the printer 60 or the memory 20 is considered outputting the modified graph from the processing system),

wherein the method is used to canonicalize a graph expressed as said input data, the graph having a plurality of nodes (3:14-4:21 describes canonicalizing a graph using one or more VOFs),

wherein the processing in accordance with the first set of rules include generating a representation of the graph and ordering the representation, the plurality of nodes being substantially omitted from the ordering process (3:14-4:21 describes selecting one or more nodes on the graph and applying one or more VOFs to the selected nodes. Applying one or more VOFs (e.g., sequentially order nodes or arrange nodes in a T-shape layout) to one or more selected nodes is considered ordering the representation of a generated graph, wherein a plurality of nodes (i.e., the nodes that weren't selected) are omitted from the ordering process);

wherein the processing in accordance with the second set of rules operates to modify the representation of the graph in respect of nodes that remain unlabelled (3:31-32 and 4:10-21 describes that a user can use selection button 143 to add or change text labels on the nodes, which is considered modifying the representation of the graph in respect of nodes that remain unlabelled, as the user writes a description into the nodes that he selects for editing); and

wherein the processing in accordance with the third set of rules includes reordering the representation, the reordered representation comprising the output data (3:14-4:21 describes that after a user has added labels to the nodes the user can apply one or more VOFs to the nodes, where the VOFs are considered to reorder the representation. Further, 3:11-13 describes that a printer 60 may be connected to the CPU in order to make a hard copy of the graph when complete; thus, the reordered presentation comprises the output data).

Ryall doesn't explicitly describe blank nodes; however, if Hussam is modified to include the graph manipulation system described in Ryall then the graph manipulation system described in Ryall would be used to apply VOFs and node labels to the RDF graph disclosed in Hussam. Thus, the combination is considered to suggest a system and method wherein

the method is used to canonicalize an RDF graph expressed as said input data, the RDF graph having a plurality of blank nodes (0101 of Hussam describes anonymous nodes),

wherein the processing in accordance with the first set of rules include generating a representation of the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process (Ryall describes that specific nodes can be selected in order to apply VOFs to the selected nodes (see above), thus, given the teachings of Hussam that some RDF nodes a blank nodes, a user is considered to be able to omit blank nodes from the selection of nodes);

wherein the processing in accordance with the second set of rules operates to modify the representation of the RDF graph in respect of blank nodes that remain unlabelled (Ryall describes adding labels to nodes (see above), thus, given the teachings of Hussam that some RDF nodes are blank nodes, a user is considered to be able to modify the representation of the RDF graph in respect of the blank nodes that remain unlabelled); and

wherein the processing in accordance with the third set of rules includes reordering the representation, the reordered representation comprising the output data (once again, Ryall describes that specific nodes (which may include all the nodes) can be selected in order to apply VOFs to the selected nodes (see above)).

All the above-described elements of claims 1, 19, and 34 are known in Hussam in view of Ryall, the only difference is the combination of known elements into a single system and method.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Hussam the system and method of processing data in a data processing system, the method comprising the steps of:

processing input data provided in the format of a data file in said data processing system in accordance with a first set of rules, which operate in said data processing system to define a stage at which such a processing operation ceases;

applying to the partly-processed data a second set of rules, which operate in said data processing system to modify the data, so that the modified data may be processed in accordance with a third set of rules and then outputted as an output data file from

said data processing system, wherein the method is used to canonicalize an RDF graph expressed as said input data, the RDF graph having a plurality of blank nodes,

wherein the processing in accordance with first set of rules include generating a representation of the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process;

wherein the processing in accordance with the second set of rules operates to modify the representation of the RDF graph in respect of blank nodes that remain unlabelled; and

wherein the processing in accordance with the third set of rules includes reordering the representation, the reordered representation comprising the output data,

as suggested by Ryall, as the additional functionality of manipulating the RDF graph in order to make it more visually organized and thus easier to understand doesn't change the basic structure and relationships of the elements that make up the RDF graph, and it could be used to achieve the predictable result of allowing a user to quickly and easily make modifications to the graph without requiring the user to manually adjust the position of each node when (1) changing the overall ordering of the graph or (2) rebalancing the graph to make it easier to understand.

Hussam in view of Ryall doesn't describe but O'Neil describes processing in accordance with a first set of rules that includes assigning a different respective label to those nodes that are determined, by a limited examination around each node, to be distinguishable from the other nodes by their respective connected features of the RDF graph, the assignment of the labels to these nodes being based on an ordering

dependent on the connected features that distinguish them (1:38-65 "The present invention provides a technique for representing hierarchical data in a non-hierarchical data structure…This structure may be captured with a position-identifier scheme referred to herein as "ORDPATH." A position-identifier is a label associated with each node represented in hierarchical data. The position identifier captures position information about the node that represents both the level in the hierarchy at which the node appears, as well as the node's relationship to its ancestors and descendants." … 6:9-27 "FIG. 3 shows a tree data structure 300 that represents the hierarchically-organized data 200 depicted in FIG. 2. Tree 300 comprises a plurality of nodes 302-314." … 6:48-7:55 "Each node in tree 300 is assigned a position identifier 325 referred to as an "ORDPATH." Position identifiers 325 represent both the hierarchical and left-to-right position in tree 300 of a given node. That is, given the position identifiers 325 of any two nodes in tree 300, it is possible to determine whether one of the nodes is an ancestor (or descendent) of the other, and, if so, how many "generations" or "levels" separate the nodes. Moreover, it is possible to determine which of the nodes appears to the left (or right) or the other. The "ORDPATH" shown in FIG. 3 is an exemplary numbering scheme for position identifiers 325.").

O'Neil doesn't explicitly describe working with blank nodes; however, if Hussam is modified to include the graph manipulation system described in Ryall in view of O'Neil then the graph labeling system described in O'Neil would be used to apply the disclosed labeling scheme to the RDF graph disclosed in Hussam. Thus, the combination is considered to suggest a system and method wherein processing in accordance with a

first set of rules further includes assigning a different respective label to those blank nodes that are determined, by a limited examination around each node, to be distinguishable from the other blank nodes by their respective connected features of the RDF graph, the assignment of the labels to these blank nodes being based on an ordering dependent on the connected features that distinguish them.

All the elements of claims 1, 19, and 34 are known in Hussam, Ryall, and O'Neil, the only difference is the combination of known elements into a single system and method.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Hussam and Ryall the system and method wherein processing in accordance with a first set of rules further includes assigning a different respective label to those blank nodes that are determined, by a limited examination around each node, to be distinguishable from the other blank nodes by their respective connected features of the RDF graph, the assignment of the labels to these blank nodes being based on an ordering dependent on the connected features that distinguish them, as suggested by O'Neil, as this doesn't change the overall operation of the system disclosed in Hussam in view of Ryall, and it could be used to achieve the predictable result of allowing a user to quickly and easily determine the relationships among nodes, based on the applied hierarchical numbering scheme, such that patterns, similarities, and groupings among nodes can be established quickly and accurately (O'Neil 1:14-35).

RE claim 2, Hussam doesn't describe but Ryall describes a method according to claim 1 wherein the first and third sets of rules are the same (3:14-4:21 describes the VOFs, which are the first and third sets of rules, as described above). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 3, Hussam doesn't describe but Ryall describes a method according to claim 1 wherein the modification in accordance with the second set of rules modifies the data (3:31-32 and 4:10-21 describes that a user can add or change the text labels on nodes (second set of rules) using selection button 143). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 4, Hussam doesn't describe but Ryall describes a method according to claim 3 wherein the first and third set of rules reorder the data, but do not otherwise modify the data (3:14-4:21 describes that the VOFs are used to reorder the data, but do not otherwise modify the data). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 6, Hussam describes a method according to claim 5 wherein the input data is a text file describing an RDF graph (0094-0104 describes that the input data is an XML file that describes an RDF graph).

RE claim 8, Hussam doesn't describe but Ryall describes a method according to claim 3 wherein the modifications include the deletion of deterministic data (3:34 describes selection button 145, which is used to delete nodes). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 9, Hussam doesn't describe but Ryall describes a method according to claim 3 wherein the modifications include the addition of deterministic data (3:31-32 describes that a user can add or change text labels on nodes). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 10, Hussam doesn't describe but Ryall describes a method according to claim 9 wherein the additions are distinguishable from data which is, prior to performance of any modifications, deterministic (3:31-32 and 4:10-21 describes that a user can add or modify labels on nodes, the new labels are considered distinguishable from the old labels). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 11, Hussam describes a method according to claim 1 wherein the data describes an ontology (0093-0104 describes that the RDF triples (i.e., resource, property type, and value) describe an ontology).

RE claim 12, Hussam doesn't describe but Ryall describes a method according to claim 1 further comprising the step of processing the data in accordance with the third set of rules (3:14-4:21 describes that the VOFs can be applied to any or all nodes, which is considered to include nodes that have been modified by a user). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 13, Hussam describes a method according to claim 12, further comprising the step of writing or verifying a digital signature establishing authenticity of the data (0103-0104 describes that RDF also provides digital signatures that will be key to building the 'Web of Trust' for electronic commerce, collaboration and other

applications).

Hussam doesn't describe that the step of writing or verifying the digital signature is subsequent to the processing of the data in accordance with the third set of rules.

However, given that Ryall describes manipulating the layout of a graph, such as an RDF graph (as suggested by Hussam in view of Ryall), and the verification of the digital signature is designed to determine the authenticity of received data, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Hussam in view of Ryall the system and method wherein the step of writing or verifying the digital signature is subsequent to the processing of the data in accordance with the third set of rules, as this doesn't change the overall operation of either system, and it could be used to achieve the predictable result of creating an RDF graph with a specific layout, as controlled by the VOFs described in Ryall, and then creating and including a digital signature with the RDF graph, in order to allow recipients of the RDF graph to verify its authenticity.

RE claim 14, Hussam doesn't describe but Ryall describes a method according to claim 1 wherein reapplying the method of claim 1 to data processed in accordance with such a method does not result in any further modification of the data (the rejection of claim 1 describes applying VOFs to a selected subset of nodes, labeling nodes that weren't involved in the manipulation by the VOFs, and then applying VOFs to all the nodes, as supported by 3:14-4:21. Thus, if these steps are repeated for a graph that has already been processed in this manner, then the process will not result in any

further modification of the data). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 25 Hussam describes a method for a data processing system to generate a signature for data that corresponds to an RDF graph having a plurality of blank nodes, the method comprising the steps of: generating the signature in the form of a triple (0103-0104 describes that resource description communities require the ability to record certain things about certain kinds of resources. For example, in describing bibliographic resources, it is common to use descriptive attributes such as 'author', 'title', and 'subject'. For digital certification, attributes (considered to be included as part of one or more triples) such as 'checksum' and 'authorization' are often required). The remaining limitations in claim 25 are identical in scope to the limitations addressed in the rejection of claims 1 and 19; thus, they have already been addressed in the office action.

RE claim 26, Hussam describes a method according to claim 25 further comprising the step of including the signature triple with other triples of the RDF graph (0103-0104 describes triples with attributes such as 'checksum' and 'authorization'; thus, the signature triple is considered to be included with other triples in the graph).

RE claim 28, Hussam describes an RDF graph that includes blank nodes (0096-0101).

Hussam doesn't describe but Ryall describes a method according to claim 1, wherein the modification of the nodes comprises deleting said nodes (3:34 describes that selection button 145 is used to delete nodes).

Given that Hussam discloses a system and method for creating an RDF graph that includes blank nodes, and Ryall describes a system and method for manipulating graphs, which includes deleting nodes, the combination is considered to suggest a method according to claim 1, wherein the modification of the unlabelled blank nodes comprises deleting said blank nodes. See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 29, Hussam describes an RDF graph that includes blank nodes (0096-0101).

Hussam doesn't describe but Ryall describes a method according to claim 1, wherein the modification of the nodes comprises adding data to said representation such that the remaining nodes can be labeled and labeling said nodes accordingly (3:31-32 describes that selection button 143 is used for adding or changing text labels on nodes. Also see 4:10-21 and 5:17-26).

Given that Hussam discloses a system and method for creating an RDF graph that includes blank nodes, and Ryall describes a system and method for labeling nodes on a graph, the combination is considered to suggest a method according to claim 1, wherein the modification of the unlabelled blank nodes comprises adding data to said representation such that the remaining unlabelled blank nodes can be labelled and labelling said blank nodes accordingly. See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 30, Hussam describes a method according to claim 1 wherein the representation is an N-Triple document (0096 describes that RDF is based on a

mathematical model that provides a mechanism for grouping together sets of very simple metadata statements known as triples).

Hussam doesn't describe but Ryall describes that the ordering is in a lexicographic ordering (3:42-49 describes that one of the VOFs places the nodes in sequential order). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 33, see the corresponding limitation in the rejection of claim 1, as it is similar in scope.

Claims 15-18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hussam (US 2003/0050927) in view of Ryall et al. (US 6,774,899).

RE claims 15 and 22, Hussam describes a system, method, and computer program stored on a computer readable medium that cause the computer to canonicalize an RDF graph having a plurality of blank nodes by: generating a representation corresponding to the RDF graph (0093-0101 describes that RDF models can be represented graphically using node and arc diagrams, as illustrated in Figure 2. Further, 0100-0101 and Figure 4 describe a node that doesn't have a URI associated with it. Hussam describes that such nodes are referred to as anonymous (or blank) nodes. Thus, Hussam describes creating an RDF graph with a plurality of blank nodes).

Hussam doesn't describe but Ryall describes a method and computer program stored on a computer readable medium (2:66-3:3) for processing data in a data processing system, the method comprising the steps of:

generating a representation corresponding to a graph and ordering the representation, a plurality of nodes being substantially omitted from the ordering process (3:14-4:21 describes selecting one or more nodes on the graph and applying one or more VOFs to the selected nodes. Applying one or more VOFs (e.g., sequentially order nodes or arrange nodes in a T-shape layout) to one or more selected nodes is considered ordering the representation of a generated graph, wherein a plurality of nodes (i.e., the nodes that weren't selected) are omitted from the ordering process);

assigning a different respective label to each of a number of the plurality of nodes (3:31-32 and 4:10-21 describes that a user can use selection button 143 to add or change text labels on the nodes, which is considered assigning a different respective label to each of a number of the plurality of nodes, as the user writes a description into the nodes that he selects for editing);

modifying the portion of the nodes remaining unlabelled (3:31-32 and 4:10-21 describes that a user can use selection button 143 to add or change text labels on the nodes, which is considered modifying the representation of the graph in respect of nodes that remain unlabelled, as the user writes a description into the nodes that he selects for editing); and

reordering the representation (3:14-4:21 describes that after a user has added labels to the nodes the user can apply one or more VOFs to the nodes, where the VOFs are considered to reorder the representation).

Ryall doesn't explicitly describe blank nodes; however, if Hussam is modified to include the graph manipulation system described in Ryall then the graph manipulation system described in Ryall would be used to apply VOFs and node labels to the RDF graph disclosed in Hussam. Thus, the combination is considered to suggest a system and method as claimed.

All the elements of claims 15 and 22 are known in Hussam in view of Ryall, the only difference is the combination of known elements into a single system and method.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Hussam the system and method comprising the steps of:

generating a representation corresponding to a graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process; assigning a different respective label to each of a number of the plurality of blank nodes; modifying the portion of the blank nodes remaining unlabelled; and reordering the representation, as suggested by Ryall, as the additional functionality of manipulating the RDF graph in order to make it more visually organized and thus easier to understand doesn't change the basic structure and relationships of the elements that make up the RDF graph, and it could be used to achieve the predictable result of allowing a user to quickly and easily make modifications to the graph without requiring the user to manually adjust the position of each node when (1) changing the overall ordering of the graph or (2) rebalancing the graph to make it easier to understand.

RE claim 16, Hussam describes an RDF graph that includes blank nodes (0096-0101).

Hussam doesn't describe but Ryall describes a method according to claim 15, wherein the modification of the nodes comprises deleting said nodes (3:34 describes that selection button 145 is used to delete nodes).

Given that Hussam discloses a system and method for creating an RDF graph that includes blank nodes, and Ryall describes a system and method for manipulating graphs, which includes deleting nodes, the combination is considered to suggest a method according to claim 15, wherein the modification of the unlabelled blank nodes comprises deleting said blank nodes. See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 17, Hussam describes an RDF graph that includes blank nodes (0096-0101).

Hussam doesn't describe but Ryall describes a method according to claim 15, wherein the modification of the nodes comprises adding data to said representation such that the remaining nodes can be labelled and labelling said nodes accordingly (3:31-32 describes that selection button 143 is used for adding or changing text labels on nodes).

Given that Hussam discloses a system and method for creating an RDF graph that includes blank nodes, and Ryall describes a system and method for labeling nodes on a graph, the combination is considered to suggest a method according to claim 15, wherein the modification of the unlabelled blank nodes comprises adding data to said representation such that the remaining unlabelled blank nodes can be labelled and

labelling said blank nodes accordingly. See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 18, Hussam describes a method according to claim 15 wherein the representation is an N-Triple document (0096 describes that RDF is based on a mathematical model that provides a mechanism for grouping together sets of very simple metadata statements known as triples).

Hussam doesn't describe but Ryall describes that the ordering is in a lexicographic ordering (3:42-49 describes that one of the VOFs places the nodes in sequential order). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL WASHBURN whose telephone number is (571)272-5551. The examiner can normally be reached on Monday through Friday 9:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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